State of Illinois
DEPARTMENT OF TRANSPORTATION
Bureau of Local Roads and Streets

SPECIAL PROVISION FOR BITUMINOUS STABILIZED BASE COURSE, ROAD MIX OR TRAVELING PLANT MIX

Effective October 1, 1973
Revised January 1, 2002

All references to Sections or Articles in this specification shall be construed to mean a specific Section or Article of the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation.

Description. This work shall consist of constructing a bituminous stabilized base course consisting of a mixture of aggregates and bituminous material blended together by road mixing or a traveling plant on a prepared subgrade . Each layer of the base course shall be not more than 100 mm (4 inches) compacted thickness.

Materials. Materials shall meet the requirements of the following Articles of Section 1000 - Materials.

Item	Article/Section
(a) Coarse Aggregate (Note 1) ……..	1004.03, 1004.04
(b) Bituminous Materials (Note 2) …….	1009.01 - 1009.04,1009.07, 1009.09, 1009.10

Note 1. The granular material shall be of gradation CA-6 or CA-10

Note 2. The contractor may use any one of the types of bituminous materials as shown in the table below. When more than one grade is shown for a particular method the Department reserves the right to specify the grade which shall be used.

Type of Construction	Bituminous Material
Prime Coat	MC-30 PEP
Base Course	MC-250, SC-250 HFE-150, HFE-300, MS-1, MS-2, CMS-1, CMS-2, SS-1, CSS-1

The same gradation of aggregate and grade of bituminous materials shall be used throughout the work.

Equipment. Equipment shall meet the requirements of the following articles of Section 1100 - Equipment.

Item	Article/Section
(a) Tandem Rollers ……	1101.01 (e)(1)
(b) Three-wheel Rollers ……	1101.01 (e)(2)
(c) Pneumatic-tired Rollers ……..	1101.01 (a) or (c)
(d) Vibratory Roller ……..	1101.01 (g)
(e) Mechanical Sweepers ……..	1101.03
(f) Rotary Speed Mixer ……..	1101.06
(g) Traveling Plant ……..	1102.02

(h) Spreaders 1102.04
(i) Pressure Distributor 1102.05
(j) Road Mixer 1102.06
(k) Heating Equipment 1102.07
(l) Drag 1102.08
(m) Windrow Evener 1102.09
(n) Graders 1102.10

CONSTRUCTION REQUIREMENTS

General. Except in specific cases when permitted by the Engineer in writing, this work shall be done only between April 15 and September 15. Bituminous materials shall be applied and bituminous mixtures placed only when the temperature of the subgrade, measured 50 to 75 mm (2 to 3 inches) below the surface, is above 10 °C (50 °F), and the air temperature in the shade is above 4 °C (40 °F). No work shall be started if local conditions indicate rain is imminent.

The subgrade shall be cleaned of all loose dirt, debris or other materials prior to placing any bituminous mixture thereon.

Sequence of Work. The construction operations shall be undertaken in the following sequence:

(a) Preparation of the subgrade.
(b) Preparation and application of bituminous material for the prime coat
(c) Proportioning and placing base aggregate.
(d) Preparation of bituminous mixture
(e) Spreading and rolling bituminous mixture.

Preparation of Subgrade. The subgrade shall be prepared in accordance with Section 301. It shall be compacted as specified in Article 301.04.

Preparation and Application of Bituminous Materials for Prime Coat. The bituminous material for the prime coat, if required by the Engineer, shall be prepared according to Article 403.07 and applied according to Articles 403.09 and 403.11.

Composition of Mixtures. The base course mixture prepared by the methods of mixing described herein shall conform to the following composition limits by weight:

Ingredient	Percent by Weight
Aggregate	96.0 to 97.5%
Residual Bitumen	2.5 to 4.0%

The percentage of residual bitumen shall be set by the Engineer. The right is reserved to make such changes in the proportions of bituminous material and aggregates, as the Engineer may consider necessary within the limits of the specifications.

Proportioning and Placing Base Aggregate. This work shall be done in accordance with the applicable portions of Article 404.08.

Preparation of Emulsified Bituminous Mixture. This work shall be done in accordance with the applicable portions of Article 404.09.

The base course aggregate shall contain not less than 3% nor more than 6 1/2% moisture by weight at the time the first application of bituminous material is made. If the aggregate does not contain sufficient moisture, water in the amount specified by the Engineer shall be added to the bituminous material prior to application. For aggregates containing more than 6 1/2% but not more than 10% moisture, the moisture content shall be reduced either by aerating the aggregate or, at the option of the contractor and at his expense, up to 4.5 kg (10 pounds) of hydrated lime per metric ton (ton) of aggregate may be added by methods approved by the Engineer. Aggregate containing more than 10% moisture shall be dried in a manner acceptable to the Engineer before any lime is added or bituminous materials are applied.

Preparation of Liquid Bituminous Mixture. This work shall be done in accordance with the applicable portions of Article 404.09.

Spreading of Bituminous Mixture. The mixture shall be placed according to Article 404.10.

Compaction of Bituminous Mixture. This work shall be done in accordance with Article 404.11.

No traffic shall be allowed upon the base mixture prior to the initial rolling.

The base mixture shall be compacted to 100% maximum density. The maximum density shall be determined in accordance with applicable portions of Article 351.05(b).

Surface Test. After the final layer of base course mixture has been compacted, the surface shall be tested for smoothness by means of a 5 m (16 foot) straightedge placed parallel to the center line of the improvement, parallel to the grade line in each wheel lane and touching the surface. Ordinates measured from the face of the straightedge to the surface of the pavement shall at no place exceed 10 mm (0.375 inch). If the variation from a true surface exceeds 10 mm (0.375 inch), the entire area so effected shall be corrected as directed by the Engineer.

Tolerance in Thickness. It is the intent that the base course shall be constructed to the nominal thickness shown on the plans. Thickness determinations shall be made at such points as the Engineer may select. When the constructed thickness is less than 90% of the nominal thickness shown on the plans, stabilized base mixture shall be added to obtain the required design thickness.

Method of Measurement. Bituminous material will be measured as specified in Section 1009.

Base course aggregate will be measured for payment in metric tons (tons) in accordance with the applicable portions of Article 351.11.

Payment will not be made for aggregate in excess of 108% of the amount specified by the Engineer, nor for materials used in the base mixture placed outside the design width plus 150 mm (6 inches).

Processing stabilized base course will be measured in place and the area computed in square meters (square yards) of bituminous stabilized base course completed and accepted or as provided in Article 351. The width for measurement will be the width from the outsides of the completed asphalt stabilized base course as shown on the plans or as directed by the Engineer. Payment will not be made for processing stabilized base course placed outside the design width plus 150 mm (6 inches).

When Emulsified Asphalt Type materials are used, water added to the emulsified asphalt in the road mixing procedure and water added to bring the moisture content of the aggregate up to the required amount for the traveling plant or pug mill mixing procedures will not be measured by

payment but the cost thereof shall be included in the contract unit price per square meter (square yard) for processing stabilized base course.

Basis of Payment. This work will be paid for at the contract unit price per liter (gallon) for BITUMINOUS MATERIALS (PRIME COAT) or per metric ton (ton) for BITUMINOUS MATERIALS (PRIME COAT) and per liter (gallon) for BITUMINOUS MATERIALS (BASE COURSE) or metric ton (ton) for BITUMINOUS MATERIALS (BASE COURSE), and per metric ton (ton) for BASE COURSE AGGREGATE, measured as specified herein.

Mixing, placing and compacting of the asphalt stabilized base course mixture will be paid for at the contract unit price per square meter (square yard) for PROCESSING STABILIZED BASE COURSE, of the specified thickness.

The cost of preparation of the subgrade shall be included in the cost of the base course aggregate, unless otherwise specified, and no additional compensation for this work will be allowed.